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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of:

Bernard A. Traversat, et al

Serial No. 10/054,809

Filed: January 22, 2002

For: ADVERTISEMENTS FOR  
PEER-TO-PEER COMPUTING  
RESOURCES

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Group Art Unit: 2152

Examiner: Doan, Duyen My

Atty. Dkt. No.: 5681-06900

**CERTIFICATE OF MAILING  
37 C.F.R. § 1.8**

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**APPEAL BRIEF**

**Mail Stop Appeal Brief - Patents**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir/Madam:

Further to the Notice of Appeal filed July 10, 2006, Appellants present this Appeal Brief. Appellants respectfully request that the Board of Patent Appeals and Interferences consider this appeal.

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**I. REAL PARTY IN INTEREST**

As evidenced by the assignment recorded at Reel/Frame 012545/0541, the subject application is owned by Sun Microsystems, Inc., a corporation organized and existing under and by virtue of the laws of the State of Delaware, and now having its principal place of business at 4150 Network Circle, Santa Clara, CA 95054.

## **II. RELATED APPEALS AND INTERFERENCES**

No other appeals, interferences or judicial proceedings are known which would be related to, directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

### **III. STATUS OF CLAIMS**

Claims 1-111 stand finally rejected. The rejection of claims 1-111 is being appealed. A copy of claims 1-111 is included in the Claims Appendix herein below.

#### **IV. STATUS OF AMENDMENTS**

An amendment to claims 110 and 111 was filed on June 8, 2006 subsequent to the final rejection to address the 35 U.S.C. § 101 and § 112 rejections in the final rejection. The Examiner never indicated whether or not this amendment was entered. Appellants assume the amendment was entered since it would server to reduce the issues on appeal. The Claims Appendix hereto reflects the state of the claims including the amendment of June 8, 2006.

## V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 is directed to peer-to-peer network system for providing peer-to-peer platform resource advertisements in a peer-to-peer networking environment. *See, e.g.*, Abstract. The peer-to-peer network includes a plurality of peers and a plurality of peer services (*see, e.g.*, page 43 line 28 - page 50, line 6) or content (*see, e.g.*, page 35 line 13 - page 37, line 16) provided by one or more of the peers. A peer is a network node configured to communicate with one or more other peers over one or more networks. *See, e.g.*, page 7, lines 17-23. An advertisement may be a structured, language-neutral metadata structure that names, describes, and publishes the existence of a peer-to-peer platform resource. *See, e.g.*, Abstract; page 7, lines 4-7; page 50, line 8 - page 51, line 24.

The peer-to-peer network further includes a peer advertisement for each of the peers. *See, e.g.*, Figure 6; page 53, line 16 - page 55, line 2. Each peer advertisement includes an identification of and communication address for a corresponding peer. *See, e.g.*, Figure 6; page 55, lines 15-29.

The peer-to-peer network further includes a service advertisement or content advertisement for each of the services or content. Each service or content advertisement includes an identification of a corresponding service or content and an indication of how to access the corresponding service or content. *See, e.g.*, Figure 9; page 58, lines 8-18; page 62, line 1 - page 63, line 18 for service advertisements. *See, e.g.*, Figure 10; page 63, line 20 - page 65, line 6 for content advertisements.

Independent claim 25 is directed to a peer node configured to discover advertisements for resources on a peer-to-peer network and to access the resources as indicated the discovered advertisements. *See, e.g.*, Abstract; page 8, lines 1-4; Figure 30; page 53, lines 1-14; Figure 34; page 50, line 24-page 51, line 10. An advertisement may be a structured, language-neutral metadata structure that names, describes, and publishes the existence of a peer-to-peer platform resource. *See, e.g.*, Abstract; page 7, lines 4-7;

page 50, line 8 - page 51, line 24. The peer node includes a processor, a port operable to couple the peer node to a network, and a memory. The memory is operable to store program instructions executable to discover advertisements for resources in a peer-to-peer network. *See, e.g.*, Figure 30; page 53, lines 1-14; Figure 34; page 50, line 24-page 51, line 10. Each resource advertisement includes an identification of a corresponding resource and an indication of how to access the corresponding resource. *See, e.g.*, page 51, line 26 - page 52, line 9. The program instructions are further executable to access resources corresponding to discovered advertisements as indicated in the advertisements. *See, e.g.*, page 53, lines 11-14; page 61, lines 7-10.

Independent claim 39 is directed to a peer node configured to instantiate one or more services and generate a peer advertisement for the peer node. The peer node includes a processor, a port operable to couple the peer node to a network, and a memory. The memory is operable to store program instructions executable to instantiate the one or more services (*see, e.g.*, page 8, line 10; page 43 line 28 - page 50, line 6) and generate the peer advertisement for the peer node. The peer advertisement includes an identifier for the peer node, a pipe endpoint advertisement indicating where to send messages to the peer node, and one or more service advertisements. *See, e.g.*, page 8, lines 6-9; Figure 6; page 53, line 16 - page 55, line 2. Each service advertisement corresponds to one of the one or more services instantiated on the peer node, and each service advertisement indicates a mechanism for other peer nodes on the network to access the corresponding service. *See, e.g.*, page 9, lines 10-14; Figure 9; page 58, lines 8-18; page 62, line 1 - page 63, line 18.

Independent claim 50 is directed to a peer-to-peer network system for providing peer-to-peer platform resource advertisements in a peer-to-peer networking environment. *See, e.g.*, Abstract. The peer-to-peer network system includes a plurality of peers and a plurality of peer services (*see, e.g.*, page 43 line 28 - page 50, line 6) or content (*see, e.g.*, page 35 line 13 - page 37, line 16) provided by one or more of the peers. A peer is a network node configured to communicate with one or more other peers over one or more networks. *See, e.g.*, page 7, lines 17-23. An advertisement may be a structured, language-

neutral metadata structure that names, describes, and publishes the existence of a peer-to-peer platform resource. *See, e.g.*, Abstract; page 7, lines 4-7; page 50, line 8 - page 51, line 24.

The peer-to-peer network further includes means for advertising each of the peers. *See, e.g.*, Figure 6; page 53, line 16 - page 55, line 2. The means for advertising a peer publishes an identifier of and communication address for a corresponding peer on the one or more networks. *See, e.g.*, Figure 6; page 55, lines 15-29.

The peer-to-peer network further includes means for advertising each of the services or content. Each means for advertising service or content publishes an identifier of a corresponding service or content and an indication of how to access the corresponding service or content. *See, e.g.*, Figure 9; page 58, lines 8-18; page 62, line 1 - page 63, line 18 for services. *See, e.g.*, Figure 10; page 63, line 20 - page 65, line 6 for content.

Independent claim 57 is directed to a method for advertising resources on a peer-to-peer network. *See, e.g.*, Abstract. The method comprises generating a peer advertisement for a peer in a peer-to-peer network, generating a service advertisement for each of one or more of services provided by the peer, and generating a content advertisement for each of one or more of content provided by the peer. A peer is a network node configured to communicate with one or more other peers over one or more networks. *See, e.g.*, page 7, lines 17-23. An advertisement may be a structured, language-neutral metadata structure that names, describes, and publishes the existence of a peer-to-peer platform resource. *See, e.g.*, Abstract; page 7, lines 4-7; page 50, line 8 - page 51, line 24.

The peer advertisement includes an identifier for the peer and a communication address for the peer. *See, e.g.*, page 8, lines 6-9; Figure 6; page 53, line 16 - page 55, line 2. Each service advertisement includes an identifier for the corresponding service and an indication of how to access the corresponding service. *See, e.g.*, Figure 9; page 58, lines



8-18; page 62, line 1 - page 63, line 18. Each content advertisement includes an identifier for the corresponding content and an indication of how to access the corresponding content. *See, e.g.*, Figure 10; page 63, line 20 - page 65, line 6.

The method further comprises publishing the peer advertisement in the peer-to-peer network to be discoverable by other peers. *See, e.g.*, Abstract; Figure 29A; page 51, line 26 - page 52, line 16.

Independent claim 79 is directed to a method for discovering resources in a peer-to-peer network. *See, e.g.*, Abstract; page 8, lines 1-4; Figure 30; page 53, lines 1-14; Figure 34; page 50, line 24 - page 51, line 10. The method comprises a peer node broadcasting a discovery query message specifying a type of resource on the network, and the peer node receiving one or more advertisements for the specified type of resource in response to the discovery query message. *See, e.g.*, Figure 30; page 53, lines 1-14; Figure 34; page 50, line 24 - page 51, line 10. Also see Figure 15; page 85, line 1 - page 87, line 87. Each advertisement is a programming language independent metadata document formatted in accordance with a peer-to-peer protocol. *See, e.g.*, Abstract; page 7, lines 4-7; page 50, line 8 - page 51, line 24; also see Figures 6-11. A peer node is a network node configured to communicate with one or more other peer nodes over one or more networks. *See, e.g.*, page 7, lines 17-23.

Independent claim 94 is directed to a method for generating and publishing peer advertisements on a peer-to-peer network. *See, e.g.*, Abstract; page 6, line 17 - page 8, line 9. The method comprises a peer node on a network instantiating one or more services. *See, e.g.*, page 43 line 28 - page 50, line 6. The method further comprises the peer node generating a peer advertisement in accordance with a peer-to-peer platform discovery protocol, and the peer node publishing the peer advertisement in the peer-to-peer network for discovery by other peer nodes on the network. *See, e.g.*, Figure 6; page 53, line 16 - page 55, line 2; Figure 30; page 53, lines 1-14; Figure 34; page 50, line 24 - page 51, line 10. The peer advertisement is a programming language independent metadata document formatted in accordance with a peer-to-peer protocol. *See, e.g.*,

Abstract; page 7, lines 4-7; page 50, line 8 - page 51, line 24; also see Figure 6; page 53, line 16 - page 55, line 2. A peer node is a network node configured to communicate with one or more other peer nodes over one or more networks. *See, e.g.*, page 7, lines 17-23.

Independent claim 100 is directed to an article of manufacture comprising program instructions. *See, e.g.*, page 127, lines 10-22. The program instructions are computer-executable to implement advertising resources on a peer-to-peer network, similar to the method of independent claim 57. *See, e.g.*, Abstract. The program instructions implement generating a peer advertisement for a peer in a peer-to-peer network, generating a service advertisement for each of one or more of services provided by the peer, and generating a content advertisement for each of one or more of content provided by the peer. A peer is a network node configured to communicate with one or more other peers over one or more networks. *See, e.g.*, page 7, lines 17-23. An advertisement may be a structured, language-neutral metadata structure that names, describes, and publishes the existence of a peer-to-peer platform resource. *See, e.g.*, Abstract; page 7, lines 4-7; page 50, line 8 - page 51, line 24.

The peer advertisement includes an identifier for the peer and a communication address for the peer. *See, e.g.*, page 8, lines 6-9; Figure 6; page 53, line 16 - page 55, line 2. Each service advertisement includes an identifier for the corresponding service and an indication of how to access the corresponding service. *See, e.g.*, Figure 9; page 58, lines 8-18; page 62, line 1 - page 63, line 18. Each content advertisement comprises an identifier for the corresponding content and an indication of how to access the corresponding content. *See, e.g.*, Figure 10; page 63, line 20 - page 65, line 6.

The program instructions further implement publishing the peer advertisement in the peer-to-peer network to be discoverable by other peers. *See, e.g.*, Abstract; Figure 29A; page 51, line 26 - page 52, line 16.

Independent claim 110 is directed to a computer-accessible storage medium configured to store program instructions. *See, e.g.*, page 127, lines 10-22. The program

instructions are computer-executable to implement discovering resources in a peer-to-peer network, similar to the method of independent claim 79. *See, e.g.*, Abstract; page 8, lines 1-4; Figure 30; page 53, lines 1-14; Figure 34; page 50, line 24 - page 51, line 10. The program instructions implement a peer node broadcasting a discovery query message specifying a type of resource on the network, and the peer node receiving one or more advertisements for the specified type of resource in response to the discovery query message. *See, e.g.*, Figure 30; page 53, lines 1-14; Figure 34; page 50, line 24 - page 51, line 10. Also see Figure 15; page 85, line 1 - page 87, line 87. Each advertisement is a programming language independent metadata document formatted in accordance with a peer-to-peer protocol. *See, e.g.*, Abstract; page 7, lines 4-7; page 50, line 8 - page 51, line 24; also see Figures 6-11. A peer node is a network node configured to communicate with one or more other peer nodes over one or more networks. *See, e.g.*, page 7, lines 17-23.

Independent claim 111 is directed to a computer-accessible storage medium configured to store program instructions. *See, e.g.*, page 127, lines 10-22. The program instructions are computer-executable to implement generating and publishing peer advertisements on a peer-to-peer network, similar to that described in the method of independent claim 94. *See, e.g.*, Abstract; page 6, line 17 - page 8, line 9. The program instructions implement a peer node on a network instantiating one or more services. *See, e.g.*, page 43 line 28 - page 50, line 6. The program instructions further implement the peer node generating a peer advertisement in accordance with a peer-to-peer platform discovery protocol, and the peer node publishing the peer advertisement in the peer-to-peer network for discovery by other peer nodes on the network. *See, e.g.*, Figure 6; page 53, line 16 - page 55, line 2; Figure 30; page 53, lines 1-14; Figure 34; page 50, line 24 - page 51, line 10. The peer advertisement is a programming language independent metadata document formatted in accordance with a peer-to-peer protocol. *See, e.g.*, Abstract; page 7, lines 4-7; page 50, line 8 - page 51, line 24; also see Figure 6; page 53, line 16 - page 55, line 2. A peer node is a network node configured to communicate with one or more other peer nodes over one or more networks. *See, e.g.*, page 7, lines 17-23.

The summary above describes various examples and embodiments of the claimed subject matter; however, the claims are not necessarily limited to any of these examples and embodiments. The claims should be interpreted based on the wording of the respective claims.

## **VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

1. Claims 110 and 111 are rejected under 35 U.S.C. § 101 as not limited to tangible embodiments.

2. Claims 110 and 111 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

3. Claims 1-5, 8-16 and 18-24 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Teodosiu et al. (U.S. Publication 2002/0062375) (hereinafter “Teodosiu”) in view of Borella et al. (U.S. Patent 6,269,099) (hereinafter “Borella”).

4. Claims 6 and 7 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Teodosiu and Borella as applied to claim 1 above, and further in view of Rochberger et al. (U.S. Patent 6,456,600) (hereinafter “Rochberger”).

5. Claim 17 stands finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Teodosiu and Borella as applied to claim 1 above, and further in view of Microsoft Dictionary 4<sup>th</sup> edition (hereinafter “Microsoft”).

6. Claims 25-38 stand finally rejected under 35 U.S.C. § 103(a) based on the same rationale as claims 1-24, claims 39-49 based on the same rationale as claims 1-24, claims 57-78 based on the same rationale as claims 1-24, claims 79-93 based on the same rationale as claims 1-24, claims 94-99 based on the same rationale as claims 1-24, claims 100-109 based on the same rationale as claims 1-24, and claims 110-111 based on the same rationale as claims 1-24.

7. Claims 50-56 stand finally rejected under 35 U.S.C. § 103(a) based on the same rationale as claims 1-18.

## VII. ARGUMENT

### Section 101 Rejection:

Claims 110 and 111 are rejected under 35 U.S.C. § 101 as not limited to tangible embodiments. An after-final amendment was filed on June 8, 2006 to amend claims 110 and 111 as suggested by the Examiner to recite a computer-readable storage medium configured to store program instructions. The Examiner did not indicate whether or not this amendment was entered. Appellants assume that the amendment was entered and that the Examiner will withdraw the § 101 rejection. However, even if the amendment is not entered, Appellants traverse the rejection. The previous wording of claims 110 and 111 recited a *tangible*, computer-accessible medium *configured to store* program instructions. Thus, claims 110 and 111 already recited a tangible embodiment that stores program instructions. Such subject matter is statutory under 35 U.S.C. § 101.

### Section 112 Rejection:

Claims 110 and 111 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. As noted above, an after-final amendment was filed on June 8, 2006 to amend claims 110 and 111 as suggested by the Examiner to recite a computer-readable storage medium configured to store program instructions. Appellants assume that the amendment was entered and that the Examiner will withdraw the § 112 rejection. However, even if the amendment is not entered, Appellants traverse the rejection. The Examiner asserts that a “tangible, computer accessible medium” is not discussed in the specification. However, Appellants note that the specification is replete with example of tangible, computer accessible media, such as the storage media or memory media such as magnetic or optical media, e.g., disk or CD-ROM, volatile or non-volatile media such as RAM (e.g. SDRAM, DDR SDRAM, RDRAM, SRAM, etc.), ROM, etc. described at p. 127, lines 12-15 of the specification. One of ordinary skill in the art would easily understand how to implement program instruction on such a medium as recited in claims 110 and 111. Thus, whether or not the amendment of June 8, 2006 is

entered, claims 110 and 111 are in complete compliance with the enablement requirement.

**Art Rejections:**

**Claims 1, 9-13, 18, 50, 56, 57, 65-69, 74, 100, 102-105 and 109:**

**First, the rejection is improper because the Examiner has not shown that Teodosiu qualifies as a prior art reference.** More specifically, Teodosiu is a published U.S. patent application that was filed on Sep. 13, 2001, after Appellants' priority date of Jan. 22, 2001. Teodosiu does claim the benefit of two provisional applications both filed Nov. 22, 2000. However, the Nov. 22, 2000 filing date can only be used as Teodosiu's 35 U.S.C. § 103(a) prior art date for the subject matter that is common to both the published application and the provisional application. **A review of Teodosiu's two provisional applications shows that they vary greatly from Teodosiu's published utility application.** The subject matter on which the Examiner is relying on to reject Appellants' claims does not appear to be entirely present in one of Teodosiu's provisional applications. Therefore, the rejection is improper. *See, In re Wertheim*, 209 USPQ 554 (CCPA 1981).

The Examiner has not shown that every portion of Teodosiu relied upon by the Examiner to reject Appellants' claims is found in the same one of Teodosiu's provisional applications. **It is the Examiner who has the burden of proof to establish a proper rejection.** *In re Warner*, 154 USPQ 173, 177 (C.C.P.A. 1967), *cert. denied*, 389 U.S. 1057 (1968). In the Final Action the Examiner did nothing more than make conclusory statements in regard to this issue. Such conclusory statements are insufficient to meet the required burden of proof to establish a reference as prior art. **A comparison between Teodosiu's published application and each provisional application clearly shows that the teachings relied on by the Examiner are largely missing from Teodosiu's provisional applications.** For example, in the rejection of claims 1-5, 8-16 and 18-24, the Examiner relies on the following paragraphs and figures of Teodosiu: [0008], [0010],

[0029], [0031], [0032], [0038-0040], [0044 - 0057], [0072 - 0077] and FIG. 3. None of these paragraphs are found in either of Teodosiu's provisional applications, and FIG. 3 of Teodosiu is drawn and labeled differently in provisional application 60/252,658. The Nov. 22, 2000 filing date can only be used as Teodosiu's 35 U.S.C. § 103(a) prior art date for the subject matter that is common to both the published application and a single one of the provisional applications. See, *In re Wertheim*, 209 USPQ 554 (CCPA 1981). **Since the portions of Teodosiu relied upon by the Examiner to reject the claims are not common to both Teodosiu's published application and one of Teodosiu's provisional applications, the rejection is improper.**

In the Response to Arguments section of the current Action, the Examiner states that "Under U.S.C. 112, it does not mention[] that the provisional application and the utility application have to be the same length or exactly the same word by word with the utility application." Appellants have never argued that 35 U.S.C. § 112 requires that the provisional application and the utility application have to be the same length or exactly the same word by word with the utility application. However, the law does require that a filing date of a parent application be used as a 35 U.S.C. § 103(a) prior art date for a child application only for subject matter that is common to both applications. The fact that only "common subject matter" can be used as prior art is both common sense and well-settled law. See, *In re Wertheim*, 209 USPQ 554 (CCPA 1981); M.P.E.P. § 2136.03(III).

**Moreover, Teodosiu's published application is not entitled to the Nov. 22, 2000 date as a section 103(a) prior art date unless at least one claim of Teodosiu's published application is supported (under 35 U.S.C. § 112) in the provisional application.** Under 35 U.S.C. 119(e)(1), a published utility application is not entitled to its provisional application's filing date as a prior art date unless at least one claim of the published utility application is supported (per 35 U.S.C. § 112) in the provisional application. Since both of Teodosiu's provisional applications are much shorter informal papers as compared to Teodosiu's utility application, it is not at all clear that either one of Teodosiu's provisional applications provide full 35 U.S.C. § 112 support for any of the claims of Teodosiu's published utility application. The rejection is improper unless the



Examiner can show that Teodosiu's published application has the necessary claim support in the provisional application to be entitled to the provisional application's filing date as its § 103(a) prior art date. *See also* M.P.E.P. § 2136.03(III),(IV).

In response to this argument, the Examiner states that pages 2-6 of Teodosiu's provisional application no. 60/252,658 teach the limitations of claim 1 of Teodosiu's published application. However, a careful review of pages 2-6 of Teodosiu's provisional application no. 60/252,658 fails to reveal that this portion of Teodosiu's provisional application satisfies the written description and enablement requirements of 35 U.S.C. § 112 for claim 1 of Teodosiu's published application. Claim 1 of Teodosiu's published application recites:

1. A method comprising:
  - receiving a peer resource request at a resource naming service (RNS) server, said peer resource request being received from a peer platform through a networking environment;
  - generating a peer resource response based on the peer resource request; and
  - returning the peer resource response to the peer platform through the networking environment, said peer resource response to enable the peer platform to access a peer resource corresponding to the peer resource request within the networking environment.

Pages 2-6 of Teodosiu's provisional application no. 60/252,658 do not describe the RNS server "receiving a peer resource request ... from a peer platform through a networking environment". Nor do pages 2-6 of Teodosiu's provisional application no. 60/252,658 describe "generating a peer resource response based on the peer resource request". Nor do pages 2-6 of Teodosiu's provisional application no. 60/252,658 describe "returning the peer resource response to the peer platform through the networking environment, said peer resource response to enable the peer platform to access a peer resource corresponding to the peer resource request within the networking environment." **Since the Examiner has not shown that Teodosiu's provisional application satisfies the written description and enablement requirements for any claim of Teodosiu's published application, the rejection is improper. *See*, M.P.E.P. § 2136.03(IV).**

The Examiner has the burden of proof to produce the factual basis for the rejection. *In re Warner*, 154 USPQ 173, 177 (C.C.P.A. 1967), *cert. denied*, 389 U.S. 1057 (1968). Since the Examiner has not proven that both of the above requirements have been met for Teodosiu's teachings to qualify as prior art, the Examiner has not met this burden of proof and the rejection is improper.

In further regard to claim 1, Teodosiu in view of Borella fails to teach or suggest a peer-to-peer network system, comprising a plurality of peers and *a plurality of peer services or content provided by one or more of said peers*. In the Final Action, the Examiner cited Teodosiu (page 1, paragraph [0010]; page 2, paragraph [0029]) as teaching this limitation. Nowhere in the cited paragraphs or elsewhere does Teodosiu mention anything like peer services provided by one or more peers. Paragraph [0010] simply mentions "content", and the publishing of content. Teodosiu equates content to information in paragraph [0010]:

...every peer machine can be both a consumer and a publisher of information, publishing information in such a system can be as easy as creating a new file. This completely eliminates the friction involved with publishing content in a client-server environment...and thus encourages users to share more content with each other.

Paragraph [0029] of Teodosiu simply mentions a Resource Naming Service used to track "resources" or "peer resources":

Resource Naming Service (RNS) that is used to track and locate resources among peers in a peer-to-peer networking environment. RNS relies on a resource naming scheme that uniquely identifies peer resources no matter where among the peers the resources may currently be available.

However, nowhere in the cited paragraphs or elsewhere does Teodosiu in view of Borella teach or suggest that peer resources as disclosed by Teodosiu include anything like *peer services* as disclosed in claim 1 of the present application. Indeed, Teodosiu never mentions anything like peer services. In fact, from an overview of Teodosiu, peer resources appears to refer only to content (information) of various types as disclosed in paragraph [0010].

In further regard to claim 1, Teodosiu in view of Borella fails to teach or suggest a peer-to-peer network system, comprising *a service or content advertisement for each of said services or content, wherein each service or content advertisement comprises an identification of a corresponding service or content and an indication of how to access the corresponding service or content.* In the Final Action, the Examiner cited Teodosiu (page 4, paragraphs [0045] and [0046]) as teaching this limitation. Teodosiu discloses a Resource Naming Service (RNS) server that receives a request for a resource from a peer, attempts to determine a location or locations for the resource and, if a location or locations are found, returns the location(s) to the requesting peer, which then is responsible for accessing the resource at (one of the) returned location(s). (Teodosiu, FIG. 1; paragraphs [0036] and [0037]). In paragraph [0046], Teodosiu describes “resource records” stored on the RNS server that “comprise unique identifiers for resources and master publishers as well as one or more locations where the resources are expected to be located.”

Appellants again note that Teodosiu in view of Borella does not teach or suggest that resources as disclosed by Teodosiu include anything like peer services, and thus certainly cannot teach or suggest service advertisements, or that “resource records” include “service advertisements.” Further, Teodosiu in view of Borella does not teach or suggest that the “resource records” include an indication of how to access the corresponding service or content. Instead, the Teodosiu reference simply mentions that the resource records comprise “unique identifiers for resources and master publishers as well as one or more locations where the resources are expected to be located.” If, upon servicing a resource request from a client, the RNS server locates a resource record corresponding to the request, the RNS server returns a “resource status and a set of locations” (paragraph [0047], second sentence). Teodosiu does not teach or suggest that the resource records include an indication of how to access the corresponding service or content, nor does Teodosiu teach or suggest that an indication of how to access the corresponding service or content is returned in response to a resource request. Instead, Teodosiu simply teaches that resource records may include one or more **locations** of a

resource, and that zero or more locations may be returned in response to a resource request. Teodosiu is silent on the subject of how to access a resource at a given location.

**In further regard to claim 1, Teodosiu in view of Borella fails to teach or suggest a peer-to-peer network system, comprising *a peer advertisement for each of said peers, wherein each peer advertisement comprises an identification of and communication address for a corresponding one of said peers.*** In the Final Action, the Examiner stated that “Teodosiu did not expressly disclose a peer advertisement for each of said peers, wherein each peer advertisement comprises an identification of and communication address for a corresponding one of said peers.” The Examiner goes on to state that “Borella taught a peer advertisement for each of said peers, wherein each peer advertisement comprises an identification of and communication address for a corresponding one of said peers. (see Borella col. 6, lines 34-60).”

Borella teaches that a network device, such as Borella’s edge router 16 may insert a special peer discovery marker in the header of an otherwise normal network message. Another network device, such as Borella’s edge router 20 retrieves the marker from the network message before sending the network message on to its destination. The information in Borella’s peer discovery marker including address information for the network device that inserted the discovery marker in the network message. The receiving network device may then open a separate communication with the sending network device in order to send its own address information. Thus, the two network devices can communicate separately, such as to enable the two devices to “exchange and negotiate ‘intelligent’ edge router capabilities such as error correction, encryption, compression and other transmission parameters” (Borella, column 7, line 36-column 8, line 12 and column 10, lines 25-33).

In col. 6, lines 34-60, Borella discloses “components of a peer discovery protocol 44” that include a “peer discovery marker 46. Peer discovery marker includes a kind-field 48, a length-field 50 and a network address-field 52.” Borella further discloses that “peer discovery protocol 44 also includes a peer discovery table 54. Peer discovery table

54 includes a first column 56, or "peer-field", to store network addresses for peer network devices. Peer discovery table 54 also includes a second column 58, or "peer host-field", to store network addresses for host network devices associated with the peer network devices."

Appellants note that the "peer discovery marker" as disclosed by Borella includes a "network address-field", but nowhere does Borella teach or suggest that the "peer discovery marker" includes an *identification of...a corresponding one of said peers*. Further, nowhere does Borella teach or suggest that the "peer discovery markers" are peer advertisements. Borella simply describes "peer discovery markers" that can be inserted in network messages, and that indicate a network address for a sending peer (network device) that wishes to be discovered. Further, nowhere does Borella teach or suggest the notion of a *peer advertisement for each of said peers*. Borella does not teach or suggest that there is a peer discovery marker for each peer or network device. Indeed, Borella appears to teach against this notion, such as when Borella states that a peer discovery marker includes a network address of a network device that wishes to be discovered (col. 6, lines 45-48).

In the Final Action, the Examiner goes on to state that:

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Borella in the system of Teodosiu to have the peer advertisement for each said peer, wherein each peer advertisement comprises an identification of and communication address for a corresponding one of said peers because both inventions taught about the peer to peer network and how these peers communicate with one another.

A person with ordinary skill in the art would have been motivated to modify the system of Teodosiu to have the peer advertisement for each said peer, wherein each peer advertisement comprises an identification of and communication address for a corresponding one of said peers because using this advertisement would allow a network device to identify one another using networking protocols and increase network performance (see Borella col. 2, lines 45-47).

Appellants note that “to support the conclusion that the claimed combination is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed combination or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references...” *Ex Parte Clapp*, 227 U.S.P.Q. 972, 973 (Bd. Pat. App. & Int’f 1985).

The Teodosiu reference discloses a “resource naming service (RNS) server receives peer resource requests from peer platforms through a networking environment. The RNS server, possibly in cooperation with other RNS servers and peer registrars generates a response to the request to enable the peer platforms to access the requested peer resources” (Teodosiu, Summary). Borella, on the other hand, discloses a “protocol and methods for peer network device discovery...The peer discovery protocol includes a peer discovery marker than can be used with an existing networking protocol such as Transmission Control Protocol ("TCP") to discover peer network devices. The peer discovery protocol also includes a peer discovery table [on each network device] to record network addresses of peer network devices and their associated host network devices” (Borella, Summary). Contrary to the Examiner’s assertion that “both inventions taught about the peer to peer network and how these peers communicate with one another,” the two references clearly teach distinctly different systems and methods. One (Teodosiu), involves a central RNS server that stores resource records used to locate resources at the request of clients; the other (Borella) involves embedding “peer discovery markers” in network messages, and distributed “peer discovery tables.”

**Since the two systems disclosed in the cited references are so clearly and distinctly different, the Examiner’s assertion that “it would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Borella in the system of Teodosiu” is unfounded. Indeed, the two references appear to teach against one another, with Teodosiu’s system relying on a central RNS server that stores “resource records”, and Borella’s system employing**

**“peer discovery markers” in embedded in network messages and distributed “peer discovery tables.”**

**Further, Appellants note that neither Teodosiu, nor Borella, nor any other evidence of record expressly or impliedly suggests the claimed combination.** The Examiner asserts that combining the two references would “allow a network device to identify one another using networking protocols and increase network performance”, and cites Borella col. 2, lines 45-47. However, those lines from Borella actually state that “it is desirable to provide a mechanism to allow “intelligent” edge routers to identify one another using networking protocols and increase network performance.” The “increased network performance” mentioned by Borella comes from allowing edge routers to identify one another. Thus, the Examiner’s suggested motivation for combining the two references is not supported by the cited reference. Appellants find the Examiner’s stated motivation for such a combination to be much less than convincing. The Examiner’s stated motivation is a purely conclusory statement that amounts to nothing more than the Examiner stating that the motivation for combining Teodosiu and Borella is to use Borella’s “peer discovery markers” in Teodosiu’s peer-to-peer system. The Examiner clearly has not stated a proper motivation to combine the teachings of the references.

Appellants can find nowhere in Teodosiu or in Borella or in any other evidence of record where the prior art expressly or impliedly suggests the claimed combination. Nor has the Examiner presented a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. Further, as noted above, the two systems disclosed in the cited references are so clearly and distinctly different as to teach away from their combination.

For at least the reasons above, the rejection of claim 1 is not supported by the cited art and removal thereof is respectfully requested.

## Claims 2 and 58:

Claim 2 depends from claim 1, and therefore the arguments given above in regards to claim 1 apply equally to claim 2. Furthermore, contrary to the Examiner's assertion, Teodosiu-Borella fail to disclose that *each peer advertisement is a programming language independent metadata document providing information about one of said peers*. In the paragraphs from Teodosiu cited by the Examiner [0045-0046], what Teodosiu discloses is that a resource request, a message transmitted over a network from a client (e.g., a "peer" or a gate server, as disclosed by Teodosiu) to a server (e.g., an RNS server as disclosed by Teodosiu), may be in a "universally accepted [messaging] protocol such as HTTP":

[0045] First, the RNS server 130 receives, from a peer 140 or from the gate server 120, a resource request at 210 for the location of a particular resource... The request can take any number of forms from a messaging protocol specific to this particular locator service to a universally accepted protocol such as HTTP.

A resource request as disclosed by Teodosiu is a message transmitted over a network from a client (e.g., a "peer" or a gate server, as disclosed by Teodosiu) to a server (e.g., an RNS server as disclosed by Teodosiu) and requesting the "location of a particular resource." Resource requests as disclosed by Teodosiu are clearly not analogous to service or content advertisements as disclosed in claim 1 of the present application. For one thing, Teodosiu does not teach or suggest that resource requests comprise "an indication of how to access the corresponding service or content." This is clear because Teodosiu specifically states that resource requests request the location of a particular resource. In addition, a message sent according to a "universally accepted [messaging] protocol" is not the same thing as a programming language independent metadata document in any case.

As to the resource records maintained by an RNS server as disclosed by Teodosiu, little mention is made of the form the resource records take other than that the records may be "cached" and that the records may be maintained as "entries" in a "list". The



Teodosiu reference **does not teach or suggest** in the cited paragraphs or elsewhere that the resource records are programming language independent metadata documents.

**Furthermore, the portions of Teodosiu cited by the Examiner are not found in either of Teodosiu's provisional applications, and thus cannot be relied upon as prior art to reject Appellants' claim.**

Appellants further note that the Borella reference does not teach or suggest "advertisements" as programming language independent metadata documents. Instead, Borella teaches that the peer discovery markers are embedded in normal messages. For example, in col. 3, lines 13-22, Borella states:

A peer discovery marker from a peer discovery protocol is added to a header in the first data packet on the second network device to create a modified first data packet as the packet passes through the second network device. The peer discovery marker includes a network address for the second network device that is trying to discover a peer network device. In a preferred embodiment of the present invention, the peer discovery marker is added as an additional networking option to a networking protocol such as TCP.

For at least the reasons above, the rejection of claim 2 is not supported by the cited art and removal thereof is respectfully requested.

**Claims 3, 51, and 59:**

Claim 3 depends from claim 1, and therefore the arguments given above in regards to claim 1 apply equally to claim 3. Furthermore, contrary to the Examiner's assertion, Teodosiu-Borella fails to teach or suggest *wherein one or more of said peer advertisements further comprises an indication of a service or content provided by the peer corresponding to that peer advertisement*. In the Final Action, the Examiner cited paragraph [0031] of Teodosiu in support of the above assertion. Paragraph [0031] of Teodosiu states:

To participate in the realm, each peer 140 first registers with registrar 110. As part of the registration process, registrar 110 assigns each peer an

identifier that is unique within realm 150, and also assigns each peer to a particular RNS server 130, hereafter called the "home RNS server" for that peer. The unique identifier for a given peer 140 is used to identify peer resources within realm 150 that are under the control of, or published by, the peer.

First, Appellants note that, in regards to claim 1 in the Final Action, the Examiner stated that "Teodosiu did not expressly disclose a peer advertisement for each of said peers." Thus, Appellants fail to see how paragraph [0031] of the Teodosiu reference could teach or suggest anything at all regarding what is comprised in a peer advertisement not disclosed by Teodosiu. Further, the cited paragraph discloses a "unique identifier for a given peer [that] is used to identify peer resources within [a] realm that are under the control of, or published by, the peer." The "unique identifiers" for peers disclosed by Teodosiu are not at all similar or analogous to a *peer advertisement including an indication of a service or content provided by the peer corresponding to that peer advertisement*.

**Furthermore, the portion of Teodosiu cited by the Examiner is not found in either of Teodosiu's provisional applications, and thus cannot be relied upon as prior art to reject Appellants' claim.**

Appellants also note that the Borella reference does not teach or suggest anything like *an indication of a service or content provided by the peer corresponding to that peer advertisement* as being included in the "peer discovery markers" disclosed by the reference.

The cited references clearly do not teach or suggest *peer advertisements including indications of a service or content provided by the peer corresponding to that peer advertisement*.

For at least the reasons above, the rejection of claim 3 is not supported by the cited art and removal thereof is respectfully requested.

**Claims 4 and 60:**

Claim 4 depends from claim 3, and therefore the arguments given above in regards to claim 3 apply equally to claim 4. Furthermore, contrary to the Examiner's assertion, Teodosiu-Borella fails to teach or suggest *wherein said indication of a service or content comprises one of said service or content advertisements*. In the Final Action, the Examiner cited paragraph [0031] of Teodosiu in support of the above assertion. The cited paragraph discloses a "unique identifier for a given peer [that] is used to identify peer resources within [a] realm that are under the control of, or published by, the peer." The "unique identifiers" for peers disclosed by Teodosiu are not at all similar or analogous to *service or content advertisements*.

Appellants also note that the Borella reference does not teach or suggest anything like *an indication of a service or content provided by the peer corresponding to that peer advertisement, wherein said indications comprise service or content advertisements* as being included in the "peer discovery markers" disclosed by the reference.

The cited references clearly do not teach or suggest *peer advertisements including indications of a service or content provided by the peer corresponding to that peer advertisement, wherein said indications comprise service or content advertisements*.

**Furthermore, the portion of Teodosiu cited by the Examiner is not found in either of Teodosiu's provisional applications, and thus cannot be relied upon as prior art to reject Appellants' claim.**

For at least the reasons above, the rejection of claim 4 is not supported by the cited art and removal thereof is respectfully requested.

**Claims 5, 52 and 61:**

Claim 5 depends from claim 1, and therefore the arguments given above in regards to claim 1 apply equally to claim 5. Furthermore, contrary to the Examiner's assertion, Teodosiu-Borella fails to teach or suggest *wherein each of said peer advertisements further comprises an endpoint advertisement, wherein said endpoint advertisement specifies said communication address for the corresponding peer and a transport protocol for the corresponding peer*. In the Final Action, the Examiner cited Borella, col. 3, lines 14-20, col. 6, lines 34-60 in support of the above assertion. Col. 3, lines 14-20 of Borella simply state that "the peer discovery marker includes a network address for the second network device that is trying to discover a peer network device." The cited selection clearly does not describe a peer advertisement that includes an endpoint advertisement that specifies a communication address and a transport protocol for the corresponding peer. The cited selection simply says that a peer discovery marker includes a network address. The cited selection from Borella does not teach or suggest anything like a transport protocol being specified in a peer discovery marker, and certainly does not teach or suggest an endpoint advertisement specifying a communication address and a transport protocol being included in a peer discovery marker.

Col. 6, lines 34-60 of Borella simply states that a "peer discovery marker includes a kind-field 48, a length-field 50 and a network address-field 52." This cited selection also clearly does not describe a peer advertisement that includes an endpoint advertisement that specifies a communication address and a transport protocol for the corresponding peer. The cited selection simply says that a peer discovery marker includes a network address. The cited selection from Borella does not teach or suggest anything like a transport protocol being specified in a peer discovery marker, and certainly does not teach or suggest an endpoint advertisement specifying a communication address and a transport protocol being included in a peer discovery marker.

Appellants also note that the Teodosiu reference does not teach or suggest anything like *wherein each of said peer advertisements further comprises an endpoint advertisement, wherein said endpoint advertisement specifies said communication address for the corresponding peer and a transport protocol for the corresponding peer.*

For at least the reasons above, the rejection of claim 5 is not supported by the cited art and removal thereof is respectfully requested.

**Claims 8, 54, and 64:**

Claim 8 depends from claim 1, and therefore the arguments given above in regards to claim 1 apply equally to claim 8. Furthermore, Teodosiu-Borella fails to teach or suggest *wherein each corresponding service advertisement comprises a pipe advertisement, wherein said pipe advertisement specifies a communication channel on which to send one or more messages to invoke the corresponding service.* In the Final Action, the Examiner cited Borella, col. 7, lines 37-51 in support of the above assertion. The cited selection from Borella discloses that:

Once the edge routers have discovered each other, they can establish a two-way peer-to-peer "data flow" (i.e., another TCP 38 channel or a UDP 40 channel) between themselves and transmit information such as "intelligent" routing capabilities, requests, or commands and other information.

First, Appellants note that nowhere does Teodosiu-Borella teach or suggest anything like a service advertisement. Indeed, as noted above, Teodosiu-Borella does not even teach or suggest that "resources" as disclosed by Teodosiu include peer services. Further, the cited selection from Borella simply discloses that, once the edge routers have discovered each other [via the "Peer Network Device Discovery" as disclosed by Borella], they can establish a two-way peer-to-peer "data flow" between themselves. Clearly, nowhere in the cited selection or elsewhere does Borella teach or suggest **anything like a pipe advertisement that specifies a communication channel on which to send one or more messages to invoke [a] corresponding service.** The cited selection does not teach or suggest any sort of "advertisement" for the "two-way peer-to-peer data

flow”. Appellants further note that nowhere in the cited selection or elsewhere does Borella teach or suggest a *communication channel on which to send one or more messages to invoke a service* (the cited selection from Borella simply describes a “two-way peer-to-peer data flow” or channel between edge routers). Since Teodosiu-Borella do not teach or suggest either service advertisements or pipe advertisements, the references clearly cannot teach or suggest a *service advertisement comprising a pipe advertisement*.

For at least the reasons above, the rejection of claim 8 is not supported by the cited art and removal thereof is respectfully requested.

**Claims 14-17, 55, 70-73 and 106-108:**

Claim 14 depends from claim 1, and therefore the arguments given above in regards to claim 1 apply equally to claim 14. Furthermore, contrary to the Examiner’s assertion, Teodosiu-Borella fails to teach or suggest *wherein said plurality of peer services or content comprises a first service and a plurality of different implementations of said first service for different platform types*. In the Final Action, the Examiner cited Teodosiu, page 3, paragraphs [0038]-[0040] in support of the above assertion. In Figure 1 of Teodosiu, realm 150 is where the peers 140 disclosed by Teodosiu reside, and the client devices are described as being outside realm 150. In paragraph [0038], Teodosiu discloses that:

Client devices are considered to be outside realm 150 if they have not been endowed with the teachings of the current invention, or if they have not been registered with the registrar 110 of this realm 150. Such devices may be able to access information from the current realm 150, but will usually not be able to publish information in this realm.

In paragraph [0039], Teodosiu discloses that, “For a client device outside realm 150, external network traffic 125 is directed to realm 150 through gate server 120.” Teodosiu goes on to disclose mechanisms for client device(s) to access resources within the realm.

Thus, Teodosiu, in the cited paragraphs, discloses client devices outside a realm, and mechanisms including “gate servers” for the client devices to access resources within the realm. However, Appellants can find nothing in the cited paragraphs or elsewhere in the cited references that teaches or suggests anything like a first service and a plurality of different implementations of said first service for different platform types.

**Furthermore, the portions of Teodosiu cited by the Examiner are not found in either of Teodosiu’s provisional applications, and thus cannot be relied upon as prior art to reject Appellants’ claim.**

For at least the reasons above, the rejection of claim 14 is not supported by the cited art and removal thereof is respectfully requested.

**Claims 19, 20 and 75:**

Claim 19 depends from claim 1, and therefore the arguments given above in regards to claim 1 apply equally to claim 19. Furthermore, contrary to the Examiner’s assertion, Teodosiu-Borella fails to teach or suggest *wherein one or more of said service or content advertisements comprises a time-to-live indicator, wherein the corresponding advertisement is deleted or invalidated when the time-to-live indicator expires*. In the Final Action, the Examiner cited Teodosiu, page 3, paragraph [0040] in support of the above assertion. The cited paragraph states:

As used herein, each resource is primarily associated with one peer, referred to as the master publisher, and may also be available at additional peers, referred to as the caching publishers. Usually, only a master publisher has the authority to publish, modify, or delete a resource.

In the cited paragraph, Teodosiu simply states that, (usually), only a master publisher has the authority to delete a resource. The cited paragraph is not even referring to advertisements (or to Teodosiu’s “resource records”), but instead is referring to resources. Appellants note that nothing in the above paragraph teaches or suggests anything like a time-to-live indicator, or that anything like a time-to-live indicator is

included in anything like an advertisement of any type, or that “resource records” include time-to-live indicators that are used to delete or invalidate resource records. Nor can Appellants find anywhere else in the references that teaches or suggests anything like a time-to-live indicator as disclosed in claim 19 of the present application.

**Furthermore, the portions of Teodosiu cited by the Examiner are not found in either of Teodosiu’s provisional applications, and thus cannot be relied upon as prior art to reject Appellants’ claim.**

For at least the reasons above, the rejection of claim 19 is not supported by the cited art and removal thereof is respectfully requested.

**Claims 21-24 and 76-78:**

Claim 21 depends from claim 1, and therefore the arguments given above in regards to claim 1 apply equally to claim 21. Furthermore, contrary to the Examiner’s assertion, Teodosiu-Borella fails to teach or suggest *wherein one or more of said peer advertisements comprises a security credential for authenticating the corresponding peer*. In the Final Action, the Examiner cited Teodosiu, page 3, paragraph [0032] in support of the above assertion. The cited paragraph states:

Any number of approaches can be used to register peers 140 with registrar 110. In one embodiment, peers 140 may use a Web-based registration process to obtain and register an identity with registrar 110. Registration may comprise a series of interactions between a peer 140 and registrar 110 to convey a user's identity, encryption keys for secure communications among elements within realm 150, billing information for access various peer resources, downloading and installing software to enable the peer 140 to be compatible with its assigned RNS server, and the like.

The cited paragraph simply states that the process of obtaining and registering an identity with registrar 110 may include interactions between a peer 140 and registrar 110, one of which may convey encryption keys for secure communications among elements within realm 150. Nowhere does the cited paragraph teach or suggest *peer advertisements comprising a security credential for authenticating the corresponding*



*peer*. The cited paragraph is not even referring to advertisements (or to Teodosiu's "resource records"). Nor can Appellants find anywhere else in the references that teaches or suggests anything like including security credentials in advertisements as disclosed in claim 21 of the present application.

**Furthermore, the portions of Teodosiu cited by the Examiner are not found in either of Teodosiu's provisional applications, and thus cannot be relied upon as prior art to reject Appellants' claim.**

For at least the reasons above, the rejection of claim 21 is not supported by the cited art and removal thereof is respectfully requested.

**Claims 6, 7, 53, 62, 63 and 101:**

Claim 6 depends from claim 1, and therefore the arguments given above in regards to claim 1 apply equally to claim 6. Furthermore, contrary to the Examiner's assertion, Teodosiu-Borella-Rochberger fails to teach or suggest *a plurality of peer groups, wherein each peer group comprises a plurality of said peers; and a peer group advertisement for each said peer group, wherein each peer group advertisement comprises an identification of a corresponding peer group and an indication of a common set of services available to members of that peer group*. In the Final Action, the Examiner cited Rochberger, col. 9, lines 16-29 and col. 10, lines 33-46 in support of the above assertion.

Rochberger discloses a method of calculating a complex node representation for logical nodes in a hierarchical peer group in a PNNI based ATM network. (Rochberger, Abstract). In col. 2, lines 24-32, Rochberger defines a "peer group" as used in the Rochberger reference:

With reference to the PNNI Phase 1 specifications, the PNNI hierarchy begins at the lowest level where the lowest level nodes are organized into peer groups. A logical node in the context of the lowest hierarchy level is the lowest level node. A logical node is typically denoted as simply a

node. A peer group is a collection of logical nodes wherein each node within the group exchanges information with the other members of the group such that all members maintain an identical view of the group.

First, appellants note from the above that Rochberger is describing a particular species of “peer group” as described in the Private Network to network Interface (PNNI) Phase 1 specifications. These peer groups are associated with Private Network to Network Interface (PNNI) based Asynchronous Transfer Mode (ATM) networks.

In col. 9, lines 23-28, Rochberger discloses that:

A peer group is identified by its ‘peer group identifier’. Peer group IDs are specified at configuration time. Neighboring nodes exchange peer group IDs using ‘Hello packets’. If they have the same peer group ID then they belong to the same peer group. If the exchanged peer group IDs are different, then the nodes belong to different peer groups.

In this citation, Rochberger simply describes that peer groups as disclosed in Rochberger are identified by “peer group IDs”. The citation does not teach or suggest the notion of a *peer group advertisement for each peer group*, nor does the citation teach or suggest the notion of *each peer group advertisement including an identification of a corresponding peer group and an indication of a common set of services available to members of that peer group.*

In col. 10, lines , Rochberger discloses that:

A logical group node is identified by a node ID which by default contains the peer group ID of the peer group that the node is representing. A logical group node is addressable by a unique ATM End System Address that may, for example, correspond to the address of the lowest-level node in the same switching system but with a different Selector value.

In this citation, Rochberger simply describes that “logical group nodes” as disclosed in Rochberger are identified by “node IDs”. A node ID contains the peer group ID of the peer group that the node is representing. The citation does not teach or suggest the notion of a *peer group advertisement for each peer group*, and the citation certainly does not teach or suggest the notion of *each peer group advertisement including an*

*identification of a corresponding peer group and an indication of a common set of services available to members of that peer group.*

Teodosiu-Borella-Rochberger does not teach or suggest, either in the cited selections from Rochberger or elsewhere, the notion of a peer group advertisement for each peer group. Furthermore, even if the cited references did teach or suggest the notion of a peer group advertisement, Teodosiu-Borella-Rochberger does not teach or suggest, either in the cited selections from Rochberger or elsewhere, the notion of each peer group advertisement including an identification of a corresponding peer group and an indication of a common set of services available to members of that peer group.

In the Final Action, the Examiner goes on to state that:

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Rochberger in the system of Borella and Teodosiu to have plurality of peer groups, wherein each peer group comprises a plurality of said peers; and a peer group advertisement for each said peer group, wherein each peer group advertisement comprises an identification of a corresponding peer group and an indication of a common set of services available to members of that peer group, because the inventions of Rochberger, Borella and Teodosiu taught about the peer to peer network and how these peers communicate with one another.

A person with ordinary skill in the art would have been motivated to modify the system of Teodosiu and Borella to have plurality of peer groups, wherein each peer group comprises a plurality of said peers; and a peer group advertisement for each said peer group, wherein each peer group advertisement comprises an identification of a corresponding peer group and an indication of a common set of services available to members of that peer group because using this advertisement would allow peer groups to communicate with one another (see Rochberger, col. 9, lines 8-35).

Appellants again note that “to support the conclusion that the claimed combination is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed combination or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have

been obvious in light of the teachings of the references...” *Ex Parte Clapp*, 227 U.S.P.Q. 972, 973 (Bd. Pat. App. & Int’f 1985).

Applicants further note that Rochberger, in col. 9, lines 8-35 or elsewhere, does not teach or suggest anything like a “peer group advertisement for each said peer group”, and certainly does not teach or suggest anything like *wherein each peer group advertisement comprises an identification of a corresponding peer group and an indication of a common set of services available to members of that peer group*. Further, Rochberger, in col. 9, lines 8-35 or elsewhere, does not teach or suggest a motivation anything similar to “using [a peer group] advertisement [to] allow peer groups to communicate with one another”.

Furthermore, as noted above, Rochberger discloses a method of calculating a complex node representation for logical nodes in a hierarchical peer group in a PNNI based ATM network. (Rochberger, Abstract). As noted in reference to claim 1, Teodosiu teaches a central RNS server that stores resource records used to locate resources at the request of clients, while Borella teaches embedding “peer discovery markers” in network messages, and distributed “peer discovery tables.” Contrary to the Examiner’s assertion that “the inventions of Rochberger, Borella and Teodosiu taught about the peer to peer network and how these peers communicate with one another,” the references clearly teach distinctly different systems and methods. Since the systems disclosed in the cited references are so clearly and distinctly different, the Examiner’s assertion that “it would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Rochberger in the system of Borella and Teodosiu” is unfounded.

Further, Appellants note that none of the reference “expressly or impliedly suggest the claimed combination.” The Examiner asserts that combining the references would “allow peer groups to communicate with one another”, and cites Rochberger, col. 9, lines 8-35. However, as noted above, the citation from Rochberger does not support the Examiner’s asserted motivation. The Examiner’s stated motivation is a purely

conclusory statement that amounts to nothing more than the Examiner stating that the motivation for combining Rochberger with Teodosiu and Borella is to use Rochberger's "advertisement" in Teodosiu and Borella (note that Rochberger does even teach or suggest a "peer group advertisement", in any case). The Examiner clearly has not stated a proper motivation to combine the teachings of the references.

Appellants can find nowhere in the cited references where "the references...expressly or impliedly suggest the claimed combination." Nor has the Examiner presented a "convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references". Further, since the systems disclosed in the cited references are so clearly and distinctly different, it is unclear as to how the references could be combined even if there was motivation to combine the references.

For at least the reasons above, the rejection of claim 6 is not supported by the cited art and removal thereof is respectfully requested.

**Claims 25, 32, and 37:**

Appellants note that the arguments given above in regards to independent claim 1 apply equally to independent claims 25. As noted in the arguments for claim 1, **the rejection is improper because the Examiner has not shown that Teodosiu qualifies as a prior art reference.**

Applicants further note that, in the Final Action, the Examiner rejected claims 25-38 under 35 U.S.C. § 103(a) based on the same rationale as claims 1-24. **However, Appellants note that independent claim 25 includes limitations not found in independent claim 1. Therefore, the Examiner failed to provide a proper *prima facie* rejection of claim 25.**

For example, claim 25 discloses *a peer node, comprising a processor, a port operable to couple the peer node to a network, and a memory operable to store program instructions, wherein the program instructions are executable by the processor to discover advertisements for resources in a peer-to-peer network, wherein each resource advertisement comprises an identification of a corresponding resource and an indication of how to access the corresponding resource.*

Teodosiu in view of Borella does not teach or suggest a peer node comprising program instructions executable to discover advertisements for resources in a peer-to-peer network. In paragraph [0045], Teodosiu simply discloses that a RNS server 130 receives from a peer 140 a resource request for the location of a particular resource. Teodosiu simply discloses that a peer sends a resource request to an RNS server for the location of a particular resource. If the RNS server finds a matching resource record, the RNS server returns the resource status and a set of locations for the resource. Teodosiu thus teaches that a peer “discovers” locations of resources through requests to the RNS server. Teodosiu clearly does not teach or suggest that a peer “discovers” “resource advertisements”, or that the RNS server returns “advertisements” to the peer. Only the RNS server as disclosed by Teodosiu is aware of the resource records.

For at least the reasons above, the rejection of claim 25 is not supported by the cited art and removal thereof is respectfully requested.

#### **Claim 26:**

Claim 26 depends from claim 25, and therefore the arguments given above in regards to claim 25 apply equally to claim 26. Applicants again note that, in the Final Action, the Examiner rejected claims 25-38 under 35 U.S.C. § 103(a) based on the same rationale as claims 1-24. **However, Appellants note that claim 26 includes limitations not found in any of claims 1-24. Therefore, the Examiner failed to provide a proper *prima facie* rejection of claim 26.** For example, claim 26 discloses that *said resources include one or more of peers, peer groups, content, service classes, services, pipes, and*

*pipe endpoints.* Appellants can find nothing in Teodosiu-Borella-Rochberger that teaches or suggests anything like resources [in a peer-to-peer network] that include *one or more of peers, peer groups, content, service classes, services, pipes, and pipe endpoints.*

For at least the reasons above, the rejection of claim 26 is not supported by the cited art and removal thereof is respectfully requested.

**Claim 27:**

Claim 27 depends from claim 25, and therefore the arguments given above in regards to claim 25 apply equally to claim 27. In addition, claim 26 includes the limitation of peer groups and advertisements corresponding to peer groups, and therefore the arguments given above in regards to claims 6 and 7 apply equally to claim 27.

For at least the reasons above, the rejection of claim 27 is not supported by the cited art and removal thereof is respectfully requested.

**Claim 28:**

Claim 28 depends from claim 25, and therefore the arguments given above in regards to claim 25 apply equally to claim 28. Applicants again note that, in the Final Action, the Examiner rejected claims 25-38 under 35 U.S.C. § 103(a) based on the same rationale as claims 1-24. **However, Appellants note that claim 28 includes limitations not found in any of claims 1-24. Therefore, the Examiner failed to provide a proper *prima facie* rejection of claim 28.** For example, claim 28 discloses that in said discovering an advertisement, the program instructions are further executable to *broadcast to other peer nodes a discovery query message specifying a type of resource.*

Teodosiu-Borella do not teach or suggest *broadcasting to other peer nodes a discovery query message specifying a type of resource on the network.* In paragraph [0045], Teodosiu discloses that a RNS server 130 receives from a peer 140 a resource

request for the location of a particular resource. Teodosiu does not teach or suggest that the peer broadcasts the resource request to other peer nodes on the network. Instead, Teodosiu suggests that the peer sends the request to a specific RNS server in the peer's "realm". In paragraph [0030], Teodosiu discloses:

To participate in the realm, each peer 140 first registers with registrar 110. As part of the registration process, registrar 110 assigns each peer an identifier that is unique within realm 150, and also assigns each peer to a particular RNS server 130, hereafter called the "home RNS server" for that peer.

In paragraph [0037], Teodosiu discloses:

For a peer 140 within realm 150, the first step in accessing a peer resource involves communicating with the peer's assigned home RNS server 130.

Thus, in teaching that the "first step in accessing a peer resource involves communicating with the peer's assigned home RNS server" Teodosiu appears to actually teach away from the notion of broadcasting a discovery query message specifying a type of resource on the network.

Borella teaches that a network device, such as Borella's edge router 16, may insert a special peer discovery marker in the header of an otherwise normal network message. Another network device, such as Borella's edge router 20, retrieves the marker from the network message before sending the network message on to its destination. However, Borella does not teach or suggest anything like a discovery query message, or the notion of a peer node broadcasting such a discovery query message on a network.

For at least the reasons above, the rejection of claim 28 is not supported by the cited art and removal thereof is respectfully requested.

#### **Claims 29-31:**

Claim 29 depends from claim 25, and therefore the arguments given above in regards to claim 25 apply equally to claim 29. Applicants again note that, in the Final Action, the Examiner rejected claims 25-38 under 35 U.S.C. § 103(a) based on the same



rationale as claims 1-24. **However, Appellants note that claim 29 includes limitations not found in any of claims 1-24. Therefore, the Examiner failed to provide a proper *prima facie* rejection of claim 29.** For example, claim 29 discloses that the program instructions are further executable to *discover a peer advertisement corresponding to another peer node, wherein said peer advertisement comprises a pipe endpoint advertisement including an indication of a transport protocol, and communicate with said other peer node upon receiving said other peer node's peer advertisement.*

In the Final Action, the Examiner asserted that “Borella taught a peer advertisement for each of said peers, wherein each peer advertisement comprises an identification of and communication address for a corresponding one of said peers. (see Borella col. 6, lines 34-60).” Borella discloses a “peer discovery marker” that includes address information for the network device that inserted the discovery marker in the network message. In col. 6, lines 34-60, Borella discloses “components of a peer discovery protocol 44” that include a “peer discovery marker 46. Peer discovery marker includes a kind-field 48, a length-field 50 and a network address-field 52.” However, nowhere does Borella teach or suggest that the “peer discovery marker” includes a “pipe endpoint advertisement including an indication of a transport protocol.” Neither Teodosiu nor Borella teach or suggest anything like pipe endpoint advertisements as disclosed in claim 29. Neither Teodosiu nor Borella, alone or in combination, teach all the limitations found in claim 29.

For at least the reasons above, the rejection of claim 29 is not supported by the cited art and removal thereof is respectfully requested.

#### **Claims 33-36:**

Claim 33 depends from claim 25, and therefore the arguments given above in regards to claim 25 apply equally to claim 33. In addition, claim 33 includes the limitation of service class advertisements, and therefore the arguments given above in regards to claims 14, 15, 16, and 17 apply equally to claim 33.

For at least the reasons above, the rejection of claim 33 is not supported by the cited art and removal thereof is respectfully requested.

**Claim 38:**

Claim 38 depends from claim 25, and therefore the arguments given above in regards to claim 25 apply equally to claim 38. In addition, claim 38 includes the limitation of security credentials, and therefore the arguments given above in regards to claims 21, 22, 23, and 24 apply equally to claim 38.

For at least the reasons above, the rejection of claim 38 is not supported by the cited art and removal thereof is respectfully requested.

**Claims 39 and 40:**

Appellants note that the arguments given above in regards to independent claim 1 apply equally to independent claims 39. As noted in the arguments for claim 1, **the rejection is improper because the Examiner has not shown that Teodosiu qualifies as a prior art reference.**

Applicants further note that, in the Final Action, the Examiner rejected claims 39-49 under 35 U.S.C. § 103(a) based on the same rationale as claims 1-24. **However, Appellants note that independent claim 39 includes limitations not found in independent claim 1. Therefore, the Examiner failed to provide a proper *prima facie* rejection of claim 39.**

For example, claim 39 discloses *a peer node, comprising a processor, a port operable to couple the peer node to a network, and a memory operable to store program instructions, wherein the program instructions are executable by the processor to generate a peer advertisement for the peer node, wherein said peer advertisement for the*

*peer node comprises a pipe endpoint advertisement indicating where to send messages to the peer node and one or more service advertisements, wherein each service advertisement corresponds to one of the one or more services instantiated on the peer node, and wherein each service advertisement indicates a mechanism for other peer nodes on the network to access the corresponding service.* In the Final Action, the Examiner asserted that “Borella taught a peer advertisement for each of said peers, wherein each peer advertisement comprises an identification of and communication address for a corresponding one of said peers. (see Borella col. 6, lines 34-60).” Borella discloses a “peer discovery marker” that includes address information for the network device that inserted the discovery marker in the network message. In col. 6, lines 34-60, Borella discloses “components of a peer discovery protocol 44” that include a “peer discovery marker 46. Peer discovery marker includes a kind-field 48, a length-field 50 and a network address-field 52.” However, nowhere does Borella teach or suggest that the “peer discovery marker” includes a “pipe endpoint advertisement.” Further, Borella does not teach or suggest that the “peer discovery marker” includes anything like service advertisements as disclosed in claim 39. Neither Teodosiu nor Borella teach or suggest anything like service advertisements as disclosed in claim 39. Neither Teodosiu nor Borella, alone or in combination, teach all the limitations found in claim 39.

For at least the reasons above, the rejection of claim 39 is not supported by the cited art and removal thereof is respectfully requested.

#### **Claims 41-49:**

Claim 41 depends from claim 39, and therefore the arguments given above in regards to claim 39 apply equally to claim 41. Applicants again note that, in the Final Action, the Examiner rejected claims 41-49 under 35 U.S.C. § 103(a) based on the same rationale as claims 1-24. **However, Appellants note that claim 41 includes limitations not found in any of claims 1-24. Therefore, the Examiner failed to provide a proper *prima facie* rejection of claim 41.**

For example, claim 41 discloses a *peer node*, comprising a processor, a port operable to couple the peer node to a network, and a memory operable to store program instructions, wherein the program instructions are executable by the processor to receive a discovery query message including one or more criteria describing a resource, wherein the discovery query message is formatted in accordance with a discovery protocol, and send a response message in response to the discovery query message including one or more advertisements of resources that match the one or more criteria.

Teodosiu-Borella do not teach or suggest a **peer node** receiving a discovery query message including one or more criteria describing a resource, wherein the discovery query message is formatted in accordance with a discovery protocol, and [the peer node] sending a response message in response to the discovery query message including one or more advertisements of resources that match the one or more criteria. Instead, in paragraph [0045], Teodosiu discloses that an **RNS server 130** receives from a peer 140 a resource request for the location of a particular resource. Teodosiu teaches that peers send requests to a specific RNS server in the peer's "realm", not to other peer nodes. In paragraph [0030], Teodosiu discloses:

To participate in the realm, each peer 140 first registers with registrar 110. As part of the registration process, registrar 110 assigns each peer an identifier that is unique within realm 150, and also assigns each peer to a particular RNS server 130, hereafter called the "home RNS server" for that peer.

In paragraph [0037], Teodosiu discloses:

For a peer 140 within realm 150, the first step in accessing a peer resource involves communicating with the peer's assigned home RNS server 130.

In paragraph [0047], Teodosiu describes that a "record" is returned to a peer in response to a resource request sent to an RNS server, and that it is the RNS server that returns the record:

If the record lists an active location for the resource, the RNS server responds in 230 with the resource status and a set of locations. The record may list zero or more active locations where the resource has been cached. If the record lists more than one active location for the resource, the RNS

server may respond with multiple locations from which the requester can choose.

Thus, in teaching that the “first step in accessing a peer resource involves communicating with the peer's assigned home RNS server”, and that the central RNS server returns a “record” including a set of locations, Teodosiu appears to actually teach away from the notion of a peer node receiving a discovery query message specifying a type of resource on the network, and the peer node sending a response message in response to the discovery query message including one or more advertisements of resources that match the one or more criteria.

Borella teaches that a network device, such as Borella's edge router 16, may insert a special peer discovery marker in the header of an otherwise normal network message. Another network device, such as Borella's edge router 20, retrieves the marker from the network message before sending the network message on to its destination. However, Borella does not teach or suggest anything like a discovery query message, or the notion of a peer node receiving or responding to such a discovery query message on a network.

For at least the reasons above, the rejection of claim 41 is not supported by the cited art and removal thereof is respectfully requested.

**Claim 79-81, 83- 86 and 110:**

Appellants note that the arguments given above in regards to independent claim 1 apply equally to independent claims 79. As noted in the arguments for claim 1, **the rejection is improper because the Examiner has not shown that Teodosiu qualifies as a prior art reference.**

Applicants further note that, in the Final Action, the Examiner rejected claims 79-93 under 35 U.S.C. § 103(a) based on the same rationale as claims 1-24. **However, Appellants note that independent claim 79 includes limitations not found in**

**independent claim 1. Therefore, the Examiner failed to provide a proper *prima facie* rejection of claim 79.**

For example, claim 79 discloses *a method for discovering resources in a peer-to-peer network, the method comprising a peer node broadcasting a discovery query message specifying a type of resource on the network*. Teodosiu-Borella do not teach or suggest broadcasting a discovery query message specifying a type of resource on the network. In paragraph [0045], Teodosiu discloses that a RNS server 130 receives from a peer 140 a resource request for the location of a particular resource. Teodosiu does not teach or suggest that the peer broadcasts the resource request on the network. Instead, Teodosiu suggests that the peer sends the request to a specific RNS server in the peer's "realm". In paragraph [0030], Teodosiu discloses:

To participate in the realm, each peer 140 first registers with registrar 110. As part of the registration process, registrar 110 assigns each peer an identifier that is unique within realm 150, and also assigns each peer to a particular RNS server 130, hereafter called the "home RNS server" for that peer.

In paragraph [0037], Teodosiu discloses:

For a peer 140 within realm 150, the first step in accessing a peer resource involves communicating with the peer's assigned home RNS server 130.

Thus, in teaching that the "first step in accessing a peer resource involves communicating with the peer's assigned home RNS server" Teodosiu appears to actually teach away from the notion of broadcasting a discovery query message specifying a type of resource on the network.

Borella teaches that a network device, such as Borella's edge router 16, may insert a special peer discovery marker in the header of an otherwise normal network message. Another network device, such as Borella's edge router 20, retrieves the marker from the network message before sending the network message on to its destination. However, Borella does not teach or suggest anything like a discovery query message, or the notion of a peer node broadcasting such a discovery query message on a network.

In further regard to claim 79, Teodosiu-Borella does not teach or suggest *the peer node receiving one or more advertisements for the specified type of resource in response to said discovery query message, wherein each advertisement is a programming language independent metadata document formatted in accordance with a peer-to-peer protocol*. In paragraphs [0045-0046], Teodosiu discloses a resource request, a message transmitted over a network from a client (e.g., a “peer” or a gate server, as disclosed by Teodosiu) to a server (e.g., an RNS server as disclosed by Teodosiu), may be in a “universally accepted [messaging] protocol such as HTTP”:

[0045] First, the RNS server 130 receives, from a peer 140 or from the gate server 120, a resource request at 210 for the location of a particular resource...The request can take any number of forms from a messaging protocol specific to this particular locator service to a universally accepted protocol such as HTTP.

A resource request as disclosed by Teodosiu is a message transmitted over a network from a client (e.g., a “peer” or a gate server, as disclosed by Teodosiu) to a server (e.g., an RNS server as disclosed by Teodosiu) and requesting the “location of a particular resource.” Resource requests as disclosed by Teodosiu are clearly not analogous to service or content advertisements as disclosed in claim 1 of the present application. For one thing, Teodosiu does not teach or suggest that resource requests comprise “an indication of how to access the corresponding service or content.” This is clear because Teodosiu specifically states that resource requests request the location of a particular resource. In addition, a message sent according to a “universally accepted [messaging] protocol” is not the same thing as a programming language independent metadata document in any case.

As to the resource records maintained by an RNS server as disclosed by Teodosiu, little mention is made of the form the resource records take other than that the records may be “cached” and that the records may be maintained as “entries” in a “list”. The Teodosiu reference **does not teach or suggest** in the cited paragraphs or elsewhere that the resource records are programming language independent metadata documents.

In paragraph [0047], Teodosiu describes what is returned to a peer in response to a resource request:

If the record lists an active location for the resource, the RNS server responds in 230 with the resource status and a set of locations. The record may list zero or more active locations where the resource has been cached. If the record lists more than one active location for the resource, the RNS server may respond with multiple locations from which the requester can choose.

Neither in the above citation nor elsewhere does Teodosiu teach or suggest that the “record” returned to a peer is a programming language independent metadata document, or that the “set of locations” contained therein are programming language independent metadata documents.

Appellants further note that the Borella reference does not teach or suggest “peer discovery markers” as programming language independent metadata documents. Instead, Borella teaches that the peer discovery markers are embedded in normal messages. For example, in col. 3, lines 13-22, Borella states:

A peer discovery marker from a peer discovery protocol is added to a header in the first data packet on the second network device to create a modified first data packet as the packet passes through the second network device. The peer discovery marker includes a network address for the second network device that is trying to discover a peer network device. In a preferred embodiment of the present invention, the peer discovery marker is added as an additional networking option to a networking protocol such as TCP.

For at least the reasons above, the rejection of claim 79 is not supported by the cited art and removal thereof is respectfully requested.

#### **Claim 82:**

Claim 82 depends from claim 79, and therefore the arguments given above in regards to claim 79 apply equally to claim 82. Applicants again note that, in the Final Action, the Examiner rejected claims 79-93 under 35 U.S.C. § 103(a) based on the same rationale as claims 1-24. **However, Appellants note that claim 82 includes limitations**



**not found in any of claims 1-24. Therefore, the Examiner failed to provide a proper *prima facie* rejection of claim 82.**

For example, claim 82 discloses *wherein the service advertisement includes an input endpoint advertisement specifying a transport protocol for sending messages to an input communication address comprised by the endpoint advertisement in accordance with the transport protocol, and wherein the service advertisement includes an output endpoint advertisement specifying a transport protocol for receiving messages from an output communication address comprised by the output endpoint advertisement in accordance with the transport protocol.* None of the cited references teach or suggest, either alone or in combination, anything like a service advertisement that includes an input endpoint advertisement and an output endpoint advertisement.

For at least the reasons above, the rejection of claim 82 is not supported by the cited art and removal thereof is respectfully requested.

**Claim 87:**

Claim 87 depends from claim 79, and therefore the arguments given above in regards to claim 79 apply equally to claim 87. Applicants again note that, in the Final Action, the Examiner rejected claims 79-93 under 35 U.S.C. § 103(a) based on the same rationale as claims 1-24. **However, Appellants note that claim 87 includes limitations not found in any of claims 1-24. Therefore, the Examiner failed to provide a proper *prima facie* rejection of claim 87.** For example, claim 87 discloses *wherein the resource type specifies one of a peer node, a peer group, a pipe, a pipe endpoint, content, or a service.* Appellants can find nothing in Teodosiu-Borella-Rochberger that teaches or suggests anything like resources [in a peer-to-peer network] that include *one or more of peer nodes, peer groups, pipes, pipe endpoints, content, and services.*

For at least the reasons above, the rejection of claim 87 is not supported by the cited art and removal thereof is respectfully requested.

**Claims 88- 92:**

Claim 88 depends from claim 79, and therefore the arguments given above in regards to claim 79 apply equally to claim 88. In addition, claim 88 includes the limitation of service class advertisements, and therefore the arguments given above in regards to claims 14, 15, 16, and 17 apply equally to claim 88.

For at least the reasons above, the rejection of claim 88 is not supported by the cited art and removal thereof is respectfully requested.

**Claim 93:**

Claim 93 depends from claim 79, and therefore the arguments given above in regards to claim 79 apply equally to claim 93. In addition, claim 93 includes the limitation of security credentials, and therefore the arguments given above in regards to claims 21, 22, 23, and 24 apply equally to claim 93.

For at least the reasons above, the rejection of claim 93 is not supported by the cited art and removal thereof is respectfully requested.

**Claims 94, 96, 98, 99, and 111:**

Appellants note that the arguments given above in regards to independent claim 1 apply equally to independent claims 94. As noted in the arguments for claim 1, **the rejection is improper because the Examiner has not shown that Teodosiu qualifies as a prior art reference.**

Applicants further note that, in the Final Action, the Examiner rejected claims 94-99 under 35 U.S.C. § 103(a) based on the same rationale as claims 1-24. **However, Appellants note that independent claim 94 includes limitations not found in**

**independent claim 1. Therefore, the Examiner failed to provide a proper *prima facie* rejection of claim 94.**

For example, claim 94 discloses a method, comprising *a peer node on a network instantiating one or more services, the peer node generating a peer advertisement in accordance with a peer-to-peer platform discovery protocol, and the peer node publishing the peer advertisement in the peer-to-peer network for discovery by other peer nodes on the network, wherein the peer advertisement is a programming language independent metadata document formatted in accordance with the peer-to-peer platform discovery protocol*. Teodosiu-Borella does not teach or suggest *wherein the peer advertisement is a programming language independent metadata document formatted in accordance with the peer-to-peer platform discovery protocol*.

Teodosiu-Borella does not teach or suggest *wherein the peer advertisement is a programming language independent metadata document formatted in accordance with the peer-to-peer platform discovery protocol*. In paragraphs [0045-0046], Teodosiu discloses a resource request, a message transmitted over a network from a client (e.g., a “peer” or a gate server, as disclosed by Teodosiu) to a server (e.g., an RNS server as disclosed by Teodosiu), may be in a “universally accepted [messaging] protocol such as HTTP”:

[0045] First, the RNS server 130 receives, from a peer 140 or from the gate server 120, a resource request at 210 for the location of a particular resource... The **request** can take any number of forms from a messaging protocol specific to this particular locator service to a universally accepted protocol such as HTTP.

A resource request as disclosed by Teodosiu is a message transmitted over a network from a client (e.g., a “peer” or a gate server, as disclosed by Teodosiu) to a server (e.g., an RNS server as disclosed by Teodosiu) and requesting the “location of a particular resource.” Resource requests as disclosed by Teodosiu are clearly not analogous to service or content advertisements as disclosed in claim 1 of the present application. For one thing, Teodosiu does not teach or suggest that resource requests comprise “an indication of how to access the corresponding service or content.” This is

clear because Teodosiu specifically states that resource requests request the location of a particular resource. In addition, a message sent according to a “universally accepted [messaging] protocol” is not the same thing as a programming language independent metadata document in any case.

As to the resource records maintained by an RNS server as disclosed by Teodosiu, little mention is made of the form the resource records take other than that the records may be “cached” and that the records may be maintained as “entries” in a “list”. The Teodosiu reference **does not teach or suggest** in the cited paragraphs or elsewhere that the resource records are programming language independent metadata documents.

In paragraph [0047], Teodosiu describes what is returned to a peer in response to a resource request:

If the record lists an active location for the resource, the RNS server responds in 230 with the resource status and a set of locations. The record may list zero or more active locations where the resource has been cached. If the record lists more than one active location for the resource, the RNS server may respond with multiple locations from which the requester can choose.

Neither in the above citation nor elsewhere does Teodosiu teach or suggest that the “record” returned to a peer is a programming language independent metadata document, or that the “set of locations” contained therein are programming language independent metadata documents.

Appellants further note that the Borella reference does not teach or suggest “peer discovery markers” as programming language independent metadata documents. Instead, Borella teaches that the peer discovery markers are embedded in normal messages. For example, in col. 3, lines 13-22, Borella states:

A peer discovery marker from a peer discovery protocol is added to a header in the first data packet on the second network device to create a modified first data packet as the packet passes through the second network device. The peer discovery marker includes a network address for the second network device that is trying to discover a peer network device. In a preferred embodiment of the present invention, the peer discovery

marker is added as an additional networking option to a networking protocol such as TCP.

For at least the reasons above, the rejection of claim 94 is not supported by the cited art and removal thereof is respectfully requested.

**Claim 95:**

Claim 95 depends from claim 94, and therefore the arguments given above in regards to claim 94 apply equally to claim 95. In addition, claim 95 includes the limitations of the peer node including an identifier for the peer node, a pipe endpoint advertisement indicating where to send messages to the peer node, and one or more service advertisements in the peer advertisement, and therefore the arguments given above in regards to claim 39 apply equally to claim 95.

For at least the reasons above, the rejection of claim 95 is not supported by the cited art and removal thereof is respectfully requested.

**Claim 97:**

Claim 97 depends from claim 94, and therefore the arguments given above in regards to claim 94 apply equally to claim 97. In addition, claim 97 includes the limitations of the peer node receiving a discovery query message, and, if the criteria matches the peer node, the peer node sending a response message, wherein the response message includes the peer advertisement, therefore the arguments given above in regards to claim 41 apply equally to claim 97.

For at least the reasons above, the rejection of claim 97 is not supported by the cited art and removal thereof is respectfully requested.

## **CONCLUSION**

For the foregoing reasons, it is submitted that the Examiner's rejection of claims 1-111 was erroneous, and reversal of his decision is respectfully requested.

The Commissioner is authorized to charge the appeal brief fee of \$500.00 and any other fees that may be due to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5681-07200/RCK. This Appeal Brief is submitted with a return receipt postcard.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'RCK', with a long horizontal flourish extending to the right.

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Date: September 11, 2006

## **VIII. CLAIMS APPENDIX**

The claims on appeal are as follows.

1. A peer-to-peer network system, comprising:

a plurality of peers, wherein each peer comprises a network node configured to communicate with one or more other ones of said peers over one or more networks;

a peer advertisement for each of said peers, wherein each peer advertisement comprises an identification of and communication address for a corresponding one of said peers;

a plurality of peer services or content provided by one or more of said peers; and

a service or content advertisement for each of said services or content, wherein each service or content advertisement comprises an identification of a corresponding service or content and an indication of how to access the corresponding service or content.

2. The peer-to-peer network system as recited in claim 1, wherein each peer advertisement is a programming language independent metadata document providing information about one of said peers.

3. The peer-to-peer network system as recited in claim 1, wherein one or more of said peer advertisements further comprises an indication of a service or content provided by the peer corresponding to that peer advertisement.

4. The peer-to-peer network system as recited in claim 3, wherein said indication of a service or content comprises one of said service or content advertisements.

5. The peer-to-peer network system as recited in claim 1, wherein each of said peer advertisements further comprises an endpoint advertisement, wherein said endpoint advertisement specifies said communication address for the corresponding peer and a transport protocol for the corresponding peer.

6. The peer-to-peer network system as recited in claim 1, further comprising:

a plurality of peer groups, wherein each peer group comprises a plurality of said peers; and

a peer group advertisement for each said peer group, wherein each peer group advertisement comprises an identification of a corresponding peer group and an indication of a common set of services available to members of that peer group.

7. The peer-to-peer network system as recited in claim 6, wherein said indication of a common set of services comprises one of said service advertisements for each service of said common set of service.

8. The peer-to-peer network system as recited in claim 1, wherein said plurality of peer services or content comprises a plurality of peer services, and wherein each corresponding service advertisement comprises a pipe advertisement, wherein said pipe advertisement specifies a communication channel on which to send one or more messages to invoke the corresponding service.

9. The peer-to-peer network system as recited in claim 1, wherein one or more of said peers are configured to discover one or more of said peer, service or content advertisements in order to locate other peers, services or content in the peer-to-peer network system.



10. The peer-to-peer network system as recited in claim 9, wherein one or more of said peers are configured to:

send a discovery query message specifying a desired type of advertisement; and

receive one or more advertisements in response to said discovery query message.

11. The peer-to-peer network system as recited in claim 1, wherein one or more of said peers are configured to publish their corresponding peer advertisements in the peer-to-peer network system to be discoverable by other peers.

12. The peer-to-peer network system as recited in claim 1, wherein one or more of said peers are configured to publish one or more of said service or content advertisements in the peer-to-peer network system to be discoverable by other peers.

13. The peer-to-peer network system as recited in claim 1, wherein each said peer advertisement and each said service or content advertisement is formatted according to a markup language schema defining elements of each type of advertisement.

14. The peer-to-peer network system as recited in claim 1, wherein said plurality of peer services or content comprises a first service and a plurality of different implementations of said first service for different platform types.

15. The peer-to-peer network system as recited in claim 14, further comprising a service class advertisement describing said first service and a service implementation advertisement for each implementation of said first service wherein each service implementation advertisement describes a corresponding one of said implementations of said first service.

16. The peer-to-peer network system as recited in claim 14, wherein one of said peers is configured to use an implementation of said first service supported by that

peer's platform.

17. The peer-to-peer network system as recited in claim 14, wherein one of said implementations of said service is a Java implementation and another one of said implementations of said service is a native code implementation.

18. The peer-to-peer network system as recited in claim 1, wherein a first peer of said plurality of peers is implemented according to a first computing platform and wherein a first service of said plurality of services or content is implemented according to a second computing platform different from said first computing platform, wherein the corresponding service advertisement for said first service specifies a platform-independent method for accessing said first service so that said first peer can activate said first service.

19. The peer-to-peer network system as recited in claim 1, wherein one or more of said service or content advertisements comprises a time-to-live indicator, wherein the corresponding advertisement is deleted or invalidated when the time-to-live indicator expires.

20. The peer-to-peer network system as recited in claim 19, wherein said time-to-live indicator is decremented to reflect a current time-to-live when the corresponding advertisement is provided to another peer.

21. The peer-to-peer network system as recited in claim 1, wherein one or more of said peer advertisements comprises a security credential for authenticating the corresponding peer.

22. The peer-to-peer network system as recited in claim 21, wherein the security credential comprised by the peer advertisement for authenticating the corresponding peer is a public key signature.

23. The peer-to-peer network system as recited in claim 21, wherein one or more peers of the plurality of peers are configured to authenticate the security credentials comprised by peer advertisements.

24. The peer-to-peer network system as recited in claim 21, wherein one or more peers are configured to confirm that the identification and security credential comprised by a particular peer advertisement indicate the same peer to authenticate each of the plurality of peers.

25. A peer node, comprising:

a processor;

a port operable to couple the peer node to a network; and

a memory operable to store program instructions, wherein the program instructions are executable by the processor to:

discover advertisements for resources in a peer-to-peer network, wherein each resource advertisement comprises an identification of a corresponding resource and an indication of how to access the corresponding resource; and

access said resources corresponding to said advertisements as indicated in said advertisements.

26. The peer node as recited in claim 25, wherein said resources include one or more of peers, peer groups, content, service classes, services, pipes, and pipe endpoints.

27. The peer node as recited in claim 25, wherein said resources include peer

groups, wherein the program instructions are further executable to discover one or more of the advertisements corresponding to peer groups in the peer-to-peer network in order to locate the peer groups in the peer-to-peer network.

28. The peer node as recited in claim 25, wherein, in said discovering an advertisement, the program instructions are further executable to:

broadcast to other peer nodes a discovery query message specifying a type of resource; and

receive in response to said discovery query message one or more advertisements for the desired type of resource.

29. The peer node as recited in claim 25, wherein the resources include other peers, wherein the program instructions are further executable to:

discover a peer advertisement corresponding to another peer node, wherein said peer advertisement comprises a pipe endpoint advertisement including an indication of a transport protocol; and

communicate with said other peer node upon receiving said other peer node's peer advertisement.

30. The peer node as recited in claim 29, wherein, in said communicating, the program instructions are further executable to send messages to a communication address comprised by said pipe endpoint advertisement in accordance with the transport protocol indicated by said pipe endpoint advertisement.

31. The peer node as recited in claim 29, wherein, in said communicating, the program instructions are further executable to receive messages from a communication address comprised by said pipe endpoint advertisement in accordance with the transport

protocol indicated by said pipe endpoint advertisement.

32. The peer node as recited in claim 25, wherein the resources include services, wherein the program instructions are further executable to access a service upon receiving said service's corresponding service advertisement.

33. The peer node as recited in claim 25, wherein the resources include service classes, wherein the program instructions are further executable to discover a service class advertisement, wherein said service class advertisement comprises one or more service implementation advertisements, and wherein each service implementation advertisement describes a corresponding service implementation for a different platform type.

34. The peer node as recited in claim 32, wherein the program instructions are further executable to access one of the service implementations for the peer node's platform type described by one of the one or more service implementation advertisements.

35. The peer node as recited in claim 33, wherein the service implementations include a Java implementation.

36. The peer node as recited in claim 33, wherein the service implementations include a native code implementation.

37. The peer node as recited in claim 25, wherein the resources include services, wherein, the peer node is implemented on a computing platform and wherein a particular service of the one or more discovered services is implemented on a different computing platform from the computing platform, wherein the service advertisement for the particular service specifies a platform-independent method for accessing the particular service to activate the particular service.

38. The peer node as recited in claim 25, wherein the resources include peers, wherein peer advertisements corresponding to the peers each comprise security credentials, and wherein the program instructions are further executable to authenticate a different peer node within the peer-to-peer network using a security credential from a peer advertisement corresponding to the different peer node.

39. A peer node, comprising:

a processor;

a port operable to couple the peer node to a network;

a memory operable to store program instructions, wherein the program instructions are executable by the processor to:

    instantiate one or more services;

    generate a peer advertisement for the peer node, wherein said peer advertisement for the peer node comprises:

        an identifier for the peer node;

        a pipe endpoint advertisement indicating where to send messages to the peer node; and

        one or more service advertisements, wherein each service advertisement corresponds to one of the one or more services instantiated on the peer node, and wherein each service advertisement indicates a mechanism for other peer nodes on the network to access the corresponding service.

40. The peer node as recited in claim 39, wherein the program instructions are further executable to publish the peer advertisement on the network, wherein said publishing makes the peer advertisement available for discovery by other peer nodes on the network.

41. The peer node as recited in claim 39, wherein the program instructions are further executable to:

receive a discovery query message including one or more criteria describing a resource, wherein the discovery query message is formatted in accordance with a discovery protocol; and

send a response message in response to the discovery query message including one or more advertisements of resources that match the one or more criteria, wherein each of said one or more resource advertisements includes a description of how to access the corresponding resource, wherein the response message is formatted in accordance with the discovery protocol.

42. The peer node as recited in claim 41, wherein the resource is the peer node or another peer node.

43. The peer node as recited in claim 41, wherein the resource is at least one of the one or more services or one or more other services.

44. The peer node as recited in claim 41, wherein the resource is content.

45. The peer node as recited in claim 41, wherein the resource is a pipe.

46. The peer node as recited in claim 41, wherein the resource is a pipe endpoint.

47. The peer node as recited in claim 41, wherein the resource is a peer group.

48. The peer node as recited in claim 41, wherein, in said publishing, the program instructions are further executable to send the peer advertisement to one or more other peer nodes on the network.

49. The peer node as recited in claim 41, wherein, in said publishing, the program instructions are further executable to send the peer advertisement to one or more rendezvous peers on the network, wherein the one or more rendezvous peers are configured to cache advertisements for discovery on the network.

50. A peer-to-peer network system, comprising:

a plurality of peers, wherein each peer comprises a network node configured to communicate with one or more other ones of said peers over one or more networks;

means for advertising each of said peers for discovery on said one or more networks, wherein said means for advertising each of said peers publishes an identifier for each of said peers, and wherein said means for advertising each of said peers further publishes a communication address corresponding to each of said peers on said one or more networks;

a plurality of peer services or content provided by one or more of said peers;

means for advertising services or content for discovery on said one or more networks, wherein said means for advertising said services or content publishes an identifier for each of said services or content, and wherein said means for advertising said services or content further publishes an indication of how to access each of said services or content on said one or



more networks.

51. The peer-to-peer network system as recited in claim 50, wherein said means for advertising each of said peers further publishes an indication of particular services or content provided by each of said peers.

52. The peer-to-peer network system as recited in claim 50, wherein said means for advertising each of said peers further publishes one or more endpoints corresponding to each of said peers.

53. The peer-to-peer network system as recited in claim 50, further comprising:

a plurality of peer groups, wherein each peer group comprises a plurality of said peers; and

means for advertising each of said plurality of peer groups for discovery on said one or more networks, wherein said means for advertising each of said plurality of peer groups publishes an identifier for each of said peer groups, and wherein said means for advertising each of said plurality of peer groups further publishes an indication of a particular common set of services available to members of each of said plurality of peer groups.

54. The peer-to-peer network system as recited in claim 50, further comprising means for advertising communication channels on which to send messages to invoke each of said services.

55. The peer-to-peer network system as recited in claim 50, wherein said plurality of peer services or content comprises a first service and a plurality of different implementations of said first service for different platform types, wherein one of said peers is configured to use an implementation of said first service supported by that peer's

particular platform.

56. The peer-to-peer network system as recited in claim 50, wherein said plurality of services or content comprises a plurality of services, wherein said means for advertising said services or content further publishes a platform-independent method for accessing one or more of said plurality of services.

57. A method, comprising:

generating a peer advertisement for a peer in a peer-to-peer network, wherein the peer advertisement comprises an identifier for the peer and a communication address for the peer;

generating a service advertisement for each of one or more of services provided by the peer, wherein each service advertisement comprises an identifier for the corresponding service and an indication of how to access the corresponding service;

generating a content advertisement for each of one or more of content provided by the peer, wherein each content advertisement comprises an identifier for the corresponding content and an indication of how to access the corresponding content; and

publishing the peer advertisement in the peer-to-peer network to be discoverable by other peers.

58. The method as recited in claim 57, wherein the peer advertisement is a programming language independent metadata document providing information about the peer.

59. The method as recited in claim 57, wherein the peer advertisement

indicates the one or more services provided by the peer.

60. The method as recited in claim 57, further comprising including one or more of said service advertisements in the peer advertisement.

61. The method as recited in claim 57, wherein the peer advertisement further comprises an endpoint advertisement, wherein said endpoint advertisement includes said communication address for the peer and a transport protocol for the peer.

62. The method as recited in claim 57, further comprising:

the peer cooperating with one or more other peers to form a peer group, wherein the peer group comprises the peer and the one or more other peers as member peers; and

generating a peer group advertisement for the peer group, wherein the peer group advertisement comprises an identifier for the peer group and an indication of a common set of services available to the member peers of the peer group.

63. The method as recited in claim 57, wherein said indication of the common set of services comprises a service advertisement for each service of said common set of services.

64. The method as recited in claim 57, wherein each service advertisement comprises a pipe advertisement, wherein said pipe advertisement includes a communication channel on which to send one or more messages to invoke the particular service.

65. The method as recited in claim 57, further comprising the peer locating other peers, services, or content in the peer-to-peer network by discovering one or more

peer, service, or content advertisements published on the network.

66. The method as recited in claim 65, wherein said discovering comprises:

sending a discovery query message specifying a particular type of advertisement;

receiving one or more advertisements corresponding to the particular type of advertisement in response to said discovery query message.

67. The method as recited in claim 57, further comprising publishing one or more of said service advertisements in the peer-to-peer network for discovery by other peers.

68. The method as recited in claim 57, further comprising publishing one or more of said content advertisements in the peer-to-peer network for discovery by other peers.

69. The method as recited in claim 57, wherein the peer advertisements, the service advertisements, and the content advertisements are each formatted according to a markup language schema defining elements of the particular type of advertisement.

70. The method as recited in claim 57, wherein the services include a plurality of implementations of a particular service each configured to support a different platform type.

71. The method as recited in claim 70, further comprising a service class advertisement describing the particular service and a service implementation advertisement for each implementation of the particular service.

72. The method as recited in claim 70, further comprising another peer in the peer-to-peer network using one of the implementations of said first service that is

configured to support the other peer's particular platform type.

73. The method as recited in claim 70, wherein the particular implementations of the particular service include a Java implementation and a native code implementation.

74. The method as recited in claim 57, wherein the peer is implemented on a computing platform, the method further comprising:

discovering a service advertisement for a service on another peer, wherein the other peer is implemented on a different computing platform; and

activating the service using a platform-independent method specified by the service advertisement corresponding to the service.

75. The method as recited in claim 57, wherein one or more of said service or content advertisements each comprises a time-to-live indicator, the method further comprising deleting or invalidating a service advertisement or content advertisement when a time-to-live indicator comprised in the service advertisement or the content advertisement expires.

76. The method as recited in claim 57, wherein the peer advertisement includes a security credential, the method further comprising:

the peer receiving a peer advertisement corresponding to another peer; and

the peer authenticating the other peer using the other peer's security credential from the received peer advertisement.

77. The method as recited in claim 76, wherein the security credential is a public key signature.

78. The method as recited in claim 76, wherein said authenticating comprises confirming that the identifier and security credential comprised by a particular peer advertisement indicate the same peer corresponding to the peer advertisement.

79. A method for discovering resources in a peer-to-peer network, the method comprising:

a peer node broadcasting a discovery query message specifying a type of resource on the network; and

the peer node receiving one or more advertisements for the specified type of resource in response to said discovery query message;

wherein each advertisement is a programming language independent metadata document formatted in accordance with a peer-to-peer protocol.

80. The method as recited in claim 79, wherein each advertisement is an XML document.

81. The method as recited in claim 79, wherein the discovery query message specifies peer nodes as the resource type.

82. The method as recited in claim 79, wherein the discovery query message specifies services as the resource type, wherein the service advertisement includes an input endpoint advertisement specifying a transport protocol for sending messages to an input communication address comprised by the endpoint advertisement in accordance with the transport protocol, wherein the service advertisement includes an output endpoint advertisement specifying a transport protocol for receiving messages from an output communication address comprised by the output endpoint advertisement in accordance with the transport protocol.

83. The method as recited in claim 79, wherein the discovery query message specifies content as the resource type.

84. The method as recited in claim 79, wherein the discovery query message specifies pipes as the resource type.

85. The method as recited in claim 79, wherein the discovery query message specifies pipe endpoints as the resource type.

86. The method as recited in claim 79, wherein the discovery query message specifies peer groups as the resource type.

87. The method as recited in claim 79, wherein the resource type specifies one of a peer node, a peer group, a pipe, a pipe endpoint, content, or a service.

88. The method as recited in claim 79, wherein the resources are services, wherein one of the one or more advertisements include a service class advertisement, wherein said service class advertisement comprises one or more service implementation advertisements, wherein each service implementation advertisement describes a different service implementation specific to a different computing platform.

89. The method as recited in claim 88, further comprising the peer node accessing a service implementation described by one of the one or more service implementation advertisements, wherein the service implementation is specific to the peer node's particular computing platform.

90. The method as recited in claim 89, wherein the service implementation is a Java implementation.

91. The method as recited in claim 89, wherein the service implementation is a native code implementation.

92. The method as recited in claim 88, wherein the peer node is implemented on a computing platform, wherein the resources are services, wherein the advertisements include a service advertisement specifying a platform independent method for accessing a particular service implemented on a different computing platform, the method further comprising the peer node activating the service using the platform independent method specified by the service advertisement.

93. The method as recited in claim 79, wherein the discovery query message specifies peers as the resource type, wherein the advertisements are peer advertisements comprising security credentials, the method further comprising the peer node authenticating another peer within the peer-to-peer network using a security credential from a discovered peer advertisement corresponding to the other peer.

94. A method, comprising:

a peer node on a network instantiating one or more services;

the peer node generating a peer advertisement in accordance with a peer-to-peer platform discovery protocol; and

the peer node publishing the peer advertisement in the peer-to-peer network for discovery by other peer nodes on the network, wherein the peer advertisement is a programming language independent metadata document formatted in accordance with the peer-to-peer platform discovery protocol.

95. The method as recited in claim 94, further comprising:

the peer node including an identifier for the peer node in the peer advertisement;

the peer node including a pipe endpoint advertisement indicating where to send



messages to the peer node in the peer advertisement; and

the peer node including one or more service advertisements in the peer advertisement, wherein each service advertisement corresponds to one of the one or more services instantiated on the peer node, and wherein each service advertisement includes information indicating a mechanism for other peers on the network to access the corresponding service; and

96. The method as recited in claim 94, wherein the peer advertisement is an XML document.

97. The method as recited in claim 94, further comprising:

the peer node receiving a discovery query message including criteria specifying peer nodes that the other peer is interested in discovering, wherein the discovery query message is formatted in accordance with the peer-to-peer platform discovery protocol; and

if the criteria matches the peer node, the peer node sending a response message, wherein the response message includes the peer advertisement, wherein the peer advertisement includes a description of how to access the peer node, and wherein the response message is formatted in accordance with the peer-to-peer platform discovery protocol.

98. The method as recited in claim 94, wherein said publishing comprises the peer node sending the peer advertisement to one or more other peers on the network.

99. The method as recited in claim 94, wherein said publishing comprises the peer node sending the peer advertisement to one or more rendezvous peers on the network, wherein the one or more rendezvous peers cache advertisements for discovery by other peers.

100. An article of manufacture comprising program instructions, wherein the program instructions are computer-executable to implement:

generating a peer advertisement for a peer in a peer-to-peer network, wherein the peer advertisement comprises an identifier for the peer and a communication address for the peer;

generating a service advertisement for each of one or more of services provided by the peer, wherein each service advertisement comprises an identifier for the corresponding service and an indication of how to access the corresponding service;

generating a content advertisement for each of one or more of content provided by the peer, wherein each content advertisement comprises an identifier for the corresponding content and an indication of how to access the corresponding content; and

publishing the peer advertisement in the peer-to-peer network to be discoverable by other peers.

101. The article of manufacture as recited in claim 100, wherein the program instructions are further executable to:

the peer cooperating with one or more other peers to form a peer group, wherein the peer group comprises the peer and the one or more other peers as member peers; and

generating a peer group advertisement for the peer group, wherein the peer group advertisement comprises an identifier for the peer group and an indication of a common set of services available to the member peers of the peer

group.

102. The article of manufacture as recited in claim 100, wherein the program instructions are further executable to locate other peers, services, or content in the peer-to-peer network by discovering one or more peer, service, or content advertisements published on the network.

103. The article of manufacture as recited in claim 102, wherein said discovering comprises:

sending a discovery query message specifying a particular type of advertisement;

receiving one or more advertisements corresponding to the particular type of advertisement in response to said discovery query message.

104. The article of manufacture as recited in claim 100, wherein the program instructions are further executable to publish one or more of said service advertisements in the peer-to-peer network for discovery by other peers.

105. The article of manufacture as recited in claim 100, wherein the program instructions are further executable to publish one or more of said content advertisements in the peer-to-peer network for discovery by other peers.

106. The article of manufacture as recited in claim 100, wherein the services include a plurality of implementations of a particular service each configured to support a different platform type.

107. The article of manufacture as recited in claim 100, wherein the program instructions are further executable to describe a particular service and generate a service implementation advertisement for each implementation of the particular service through a corresponding service advertisement.

108. The article of manufacture as recited in claim 100, wherein the program instructions are further executable to access one of the implementations of a service that is configured to support a particular computing platform type.

109. The article of manufacture as recited in claim 100, wherein the program instructions are further executable to:

discover a service advertisement for a service on a peer, wherein the peer is implemented on a particular computing platform; and

activate the service using a platform-independent method specified by the service advertisement corresponding to the service.

110. A computer-readable storage medium configured to store program instructions, wherein the program instructions are computer-executable to implement:

a peer node broadcasting a discovery query message specifying a type of resource on the network; and

the peer node receiving one or more advertisements for the specified type of resource in response to said discovery query message;

wherein each advertisement is a programming language independent metadata document formatted in accordance with a peer-to-peer protocol.

111. A computer-readable storage medium configured to store program instructions, wherein the program instructions are computer-executable to implement:

a peer node on a network instantiating one or more services;

the peer node generating a peer advertisement in accordance with a peer-to-peer platform discovery protocol; and

the peer node publishing the peer advertisement in the peer-to-peer network for discovery by other peer nodes on the network, wherein the peer advertisement is a programming language independent metadata document formatted in accordance with the peer-to-peer platform discovery protocol.

## **IX. EVIDENCE APPENDIX**

No evidence submitted under 37 CFR §§ 1.130, 1.131 or 1.132 or otherwise entered by the Examiner is relied upon in this appeal.

**X.     RELATED PROCEEDINGS APPENDIX**

There are no related proceedings.